Wildlife and Fishery Considerations in Surface Mine Reclamation

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I. INTRODUCTION

The Surface Mining Control and Reclamation Act (SMCRA, 1977), as well as the majority—if not all—state regulations, provides provisions for incorporating fish and wildlife habitats into the reclamation of surface mine lands. In the past, wildlife habitats were generally not planned but occurred as a result of natural succession. Efforts to integrate these habitats into the overall reclamation of the site or the surrounding landscape was not part of the reclamation plan. Reclaimed surface mines often occurred as homogenous habitats that lack the biological diversity that the area had prior to mining. It is possible, by providing habitat heterogeneity during reclamation, to re-establish the functional uses that existed on the site prior to mining. By providing a mosaic of terrestrial and wetland habitats, it may be possible to enhance the biodiversity of the region, including habitats for rare and endangered species (Fig. 15–1).

Unfortunately, current regulations may not be conducive to the development of a diversity of wildlife habitats. For example, the regrading of surface mine lands to the approximate original contour may not provide the integration of uplands and wetland swales that occur in natural landscapes. Although current regulations require that surface run-off and siltation be retained on the mine site by a series of diversions and sediment ponds, these structures are often removed as required by regulations as part of reclamation. This is largely the result of the postmining land listed as hay or pasture, even though they offer a potential for developing a diversity of fish and wildlife habitats. Current regulations do provide the option for sediment ponds and impoundments to remain on mine sites as long as they are compatible with the approved postmining land use. In Pennsylvania, the integration of sediment pond into a mosaic of wetlands and upland sites has provided habitat for over 60 species of birds, including 7 species of special concern, 17 species of mammals and 8 species of amphibians and reptiles (Brenner, 1992). Establishing habitats on surface mine lands for rare and endangered flora and fauna, along with habitat for species with declining breeding populations such as the American woodcock (Scolopax minor Gmelin), is a worthwhile goal for reclamationists.